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ABSTRACT

Some findings about attrition from two- and four-year colleges and universities based on the National Longitudinal Study of the High School Class of 1972 (NLS) are presented. Attrition is defined as withdrawal from college without completing a degree. After 2 years, the four-year institutions had lost 23.5 percent of their entrants. More two-year college students, 39.3 percent, withdrew without completing a degree. Private schools and schools with higher than average admissions test scores had lower attrition rates. The majority of students who left college did so for nonacademic reasons; those who worked full time withdrew at nearly double the rate of those with a part-time job or no job at all. Black and Hispanic students withdrew somewhat more frequently than white students, but in 4-year institutions there were no differences in attrition when adjustments were made for socioeconomic background. (Author/MV)

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NATIONAL LONGITUDINAL STUDY

of the High School Class of 1972

National Center for Education Statistics

Attrition From College: The Class of 1972 Two and One-Half Years After High School Graduation

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NCES 77-266

ATTRITION FROM COLLEGE: THE CLASS OF 1972 TWO AND ONE-HALF YEARS AFTER HIGH SCHOOL GRADUATION

by Andrew Kolstad

Summary

This report presents some findings about attrition from 2-year and 4-year colleges and universities based on NCES's National Longitudinal Study of the High School Class of 1972 (NLS).*[1] Attrition is generally defined as withdrawal from college without completing a degree; in this report, students who had attended courses in the first 2 years after high school but did not attend in fall 1974 are defined as withdrawn unless they had completed a 2-year program.

- **Decline in Attrition.** After 2 years, the 4-year institutions lost 23.5 percent[2] of their entrants. This withdrawal rate is lower than most earlier studies, with estimates ranging from 21 to 46 percent. However, the figures are not strictly comparable, since other studies usually measure attrition 4 years after entering college.

- **School Differences.** Among 2-year college students, 39.3 percent withdrew without completing a degree, so 2-year colleges clearly lost more students than 4-year institutions did. Private schools and schools with higher than average test scores for entering students had lower attrition rates.

- **Personal Differences.** The majority of students who left college reported doing so for nonacademic reasons. The students who worked full time withdrew at nearly double the rate of those with a part-time job or no job at all. Black and Hispanic students withdrew somewhat more frequently than White students, but in 4-year institutions these differences disappeared when adjustments were made for socioeconomic background.

The Attrition Process

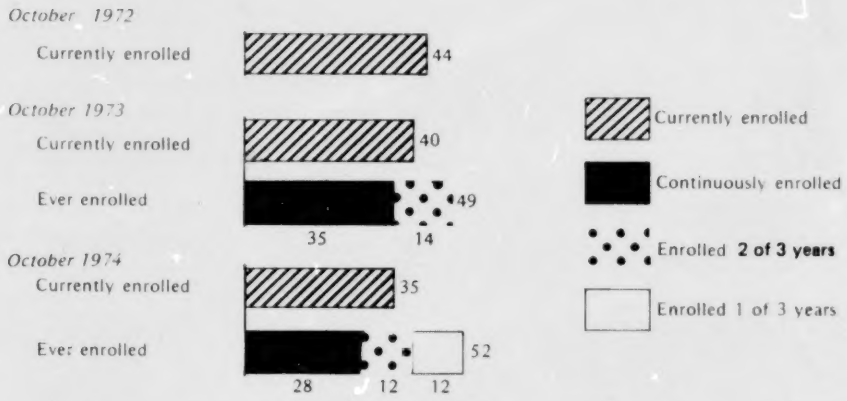
Attrition from college is part of an ongoing educational process, both for the higher educational system as a whole and for the individual student who enters or leaves college. For the system of higher education as a whole, the process of attrition shows up as a decreasing proportion of a high school class that is *currently enrolled* in college.[3] The current enrollment figures for the high school class of 1972 dropped from 44 percent initially to 40 percent and 35 percent in October of the three years for which data are available.

But the proportion of each high school class that has been *continuously enrolled*, and thus can be expected to graduate "on schedule" in 4 years (or 2 years for junior colleges) decreases more rapidly than current enrollment. The continuous enrollment figures for the high school class of 1972 dropped from 44 percent initially to 35 percent and 28 percent in the same three years.

The difference between current and continuous enrollment is made up of students who either started late or withdrew from and reentered college. Because some students started late, the proportion of the high school class of 1972 that was *ever enrolled* increased each year, from 44 percent initially to 49 percent and 52 percent. The accompanying chart illustrates these percentages graphically.

*See brief background description of the NLS, sampling variability, footnotes, and references at end of this report.

Four-year and 2-year college attendance, current and past, as a percentage of the high school class of 1972



For the individual student, withdrawal often can be a temporary step in a lengthy educational process. For example, among the members of the high school class of 1972 who entered college in fall 1972 but withdrew in fall 1973, other NLS data show that 24 percent subsequently reentered college in fall 1974 and another 20 percent planned to reenter[4] in 1975. Similarly, among those who had enrolled 2 years and then withdrew, 46 percent planned to reenter college within 1 year. Thus, for a substantial number of students, the decision to withdraw is a reversible one.

Decline in Attrition Rates

Since there is movement into as well as out of the system of higher education, a measure of withdrawal at any point in time is to a certain extent arbitrary. Nevertheless, for the purpose of this report, all students who attended a 2-year or 4-year college or university[5] in either October 1972 or October 1973 but not in October 1974 were defined as withdrawn (with the exception of those who completed a 2-year degree or other formal award). This definition counts as withdrawn only those who leave the higher educational system entirely, not those who transfer from one institution to another.

Of those who enrolled in college in 1972 or 1973, 29.0 percent had withdrawn by 1974 without completing their degrees, 23.5 percent from 4-year institutions and 39.3 percent from 2-year colleges. Comparison of these figures with figures from other surveys is hampered by variations among studies in the definition of attrition, the followup period, and the representativeness of samples used. The Newman task force report indicated a "large and growing number of students who voluntarily drop out of college" (U.S. Department of Health, Education, and Welfare, 1971, p.1). While the absolute numbers of withdrawals may be growing, the evidence from the different studies (reported in table 1) indicates that the proportion of entering students who withdraw has declined over the past 22 years, particularly among 2-year colleges.

Table 1.--Reported attrition rates, by cohort and followup period

Fall of college entry	Followup period	Attrition rates (percent) 4-year colleges and universities	2-year colleges	Total	Source
1950	4 years	46	--	--	Iffert (1957)
1959	4 years	39	65	48	Trent and Medsker (1968)
1960	5 years	22	--	--	Bayer (1968)
1961	4 years	35	--	--	Astin and Panos (1969)
1961	10 years	21	--	--	El-Khawas and Bisconti (1974)
1966	2 years	25	51	34	Adams (1969), Jaffe and Adams (1969)
1966	4 years	28	41	--	Astin (1972)
1966	5 years	--	--	25	El-Khawas and Bisconti (1974)
1972	2 years	23.5	39.3	29.0	Peng, Asburn, and Dunteman (1976)

In interpreting the attrition rates in this table, it should be noted that over time a cohort's attrition rate initially increases but later decreases, since many students who do not graduate in 4 years eventually return—perhaps to a different school—to complete their degree (Eckland, 1964). For this reason, the 5-year followup rates for the 1960 and 1966 cohorts and the 10-year followup rate for the 1961 cohort are lower than they would be if the followup period were the standard 4 years. The 22-percent attrition rate from Bayer's 1960 cohort, in addition, is not adjusted, as others are, for the tendency of the less educationally successful to respond less often, so this rate is probably an underestimate of attrition.[6]

The NLS 2-year followup period is matched only by the Jaffe and Adams study, based on a small 1966 Current Population Survey subsample; this comparison indicates a slight decline in attrition among 4-year institutions and a more substantial decline among 2-year colleges.[7]

Two-Year, Public, and Less Academically Selective Schools

Institutions of higher education vary considerably in their resources, specialization of curriculum, counseling and placement services, and other postsecondary institutional characteristics as well as their student composition; these differences are associated with variations in attrition rates. For example, 4-year institutions require a longer time commitment, recruit students with more resources and academic ability, and spend more per student[8] than 2-year institutions do. Since different types of schools enroll very different types of students, the association between school characteristics and attrition may be partially due to student composition as well as other nonschool factors. Therefore, it should not be assumed that school characteristics alone produce attrition differences.

Table 2 shows that public institutions had higher attrition rates than did private institutions and that 2-year colleges had higher attrition rates than 4-year institutions. Enrollments in 2-year colleges have increased dramatically in the past 20 years. In addition, table 1 showed that attrition among 2-year colleges has decreased. The 2-year colleges thus appear to have recruited more students and kept them longer, increasing the total exposure of this age group to postsecondary education.

Table 2.--Percent withdrawn after 2 years, by control and type of institution

Control	4-year institution	2-year college
Public	28.5	39.8
Private	22.3	32.2

Source[9]: Table IV-4.

As a general rule, admission to 4-year institutions is more selective by ability than is admission to 2-year colleges. Selectivity of postsecondary schools in which NLS respondents are enrolled is measured by average SAT scores of entering students (Astin, 1971). Table 3 shows that among 4-year colleges, the more academically selective the school the lower the attrition rate, but this association does not hold for 2-year colleges.[10] Among types of colleges with comparable selectivity, 2-year schools have higher attrition rates than 4-year schools.

Table 3.--Percent withdrawn after 1 year, by selectivity and type of college

Selectivity[11]	4-year institution	2-year college
Unknown	29.3	30.4
Low	20.4	28.7
Medium	17.9	27.5
High	9.0	---

Source: Table IV-6.

Student Employment and Socioeconomic Background

Most students who leave college appear to do so for nonacademic reasons. NLS data show that academic withdrawals[12] constituted less than a quarter of those who withdrew from 4-year institutions and less than a

sixth of those who withdrew from 2-year colleges. Thus, in seeking to understand withdrawal from college one must look primarily at nonacademic factors.

Attending college requires time and money in addition to motivation and ability. Employment, by decreasing the student's time available for school, can affect withdrawal. Similarly, socioeconomic background, by affecting the financial and other resources available to the student, can in turn affect withdrawal from college. Table 4 shows that being employed full time is a factor associated with withdrawal from school: in both 2-year and 4-year institutions, students with full-time jobs withdrew at around double the rate of those with part-time jobs or no job at all.[13]

Table 4.--Percent withdrawn after 1 year, by employment status

Employment status	4-year institution	2-year college
Full-time	39.4	49.5
Part-time	17.2	26.1
Not working	14.9	27.8

Source: Table C-7.

Table 5 shows that socioeconomic background[14] is also associated with withdrawal from college: in both 2-year and 4-year institutions, students from the lower socioeconomic quartile withdrew at least 15 percentage points more often than those in the upper quartile.

Table 5.--Percent withdrawn after 2 years, by socioeconomic background

Socioeconomic background	4-year institution	2-year college
Lower quartile	33.1	46.6
Middle 2 quartiles	27.0	40.4
Upper quartile	17.3	33.0

Source: Table IV-10.

Black and Hispanic Students

NCES and Census Bureau studies have shown that Black and Hispanic students have increased their representation in postsecondary education during the past decade. Evidence on withdrawal rates from the NLS is consistent with this trend. Table 6 shows that, while Black and Hispanic students are more likely than Whites to withdraw from 2-year colleges, in 4-year colleges the differences are slight.

Table 6.--Percent withdrawn after 2 years, by race/ethnicity

Race/ethnicity	4-year institution	2-year college
Black	27.3	47.7
Hispanic	24.8	45.3
White	23.3	38.3

Source: Table IV-8.

Since Black and Hispanic students often have a lower socioeconomic background than Whites, some of the apparent differences in table 6 are socioeconomic. Comparing Black, White, and Hispanic students within the lower SES quartiles, table 7 shows that (a) among 4-year colleges, Black and Hispanic students are slightly *less* likely to withdraw than Whites, and (b) among 2-year colleges, Black and Hispanic students are more likely than Whites to withdraw, but the difference is reduced to half the size of that shown in table 6. Withdrawal rates based on fewer than 100 cases are omitted from the table.

Table 7.--Percent withdrawn after 2 years, by race/ethnicity and socioeconomic background

Socioeconomic background	4-year institution	2-year college
Lower quartile		
Black	32.5	51.3
Hispanic	25.2	48.2
White	33.6	44.8
Middle 2 quartiles		
Black	23.7	45.9
White	27.7	39.5
Upper quartile		
White	17.8	33.9

Source: Tables E-1 and E-2.

BACKGROUND

The information reported is derived from answers to selected questions from the base-year and first and second followup surveys for the National Longitudinal Study of the High School Class of 1972 (NLS). The base-year survey (spring 1972), sponsored by the National Center for Education Statistics with support from elements of the Office of Education, used a stratified, two-stage national probability sample consisting of approximately 21,000 high school seniors in 1,200 schools and achieved a response rate of 77 percent. The first followup survey was conducted in fall 1973, with a response rate of 92 percent; the second followup, in fall 1974, with 89 percent. A third followup survey is planned for fall 1976, when many students will have graduated from college. As the study progresses, further reports and analyses of attrition will be released.

SAMPLING VARIABILITY

Since the statistics presented are based on a sample, they may vary somewhat from the figures that would have been obtained if a complete survey, or census, had been taken using the same forms, procedures, and instructions. The difference between a statistic estimated from a sample and its corresponding census value occurs due to chance. Sampling or chance variation is measured by the standard error. The chances are 2 out of 3 that an estimate from a sample will differ from the census value by less than one standard error. The standard error does not include the effects of any biases due to nonresponse, measurement error, processing error, or other systematic errors that would occur even in a complete survey. The standard error for an estimated percentage is a function of the sample design, the percentage itself, and the sample size.

In this survey, the standard error is very small (less than 0.6 percent) for percentages based on the 9,775 respondents who went to college. Sampling variation is larger, however, for estimates that relate to a population subgroup (e.g., males). Where p is the proportion and n is the subgroup size, the sampling error of the reported proportions can be approximated by the formula $1.18\sqrt{[p(1-p)/n]}$. Percentages for smaller subgroups are less accurate than those for larger subgroups, and those near either zero or 100 percent are less accurate than those near the middle of the range.

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FOOTNOTES

[1] The population in this report consists of the approximately 3 million 12th grade students enrolled in all public, private, and church-affiliated high schools in the 50 States and the District of Columbia in 1972. A two-stage procedure was used to sample from this population. The first stage involved selecting schools within strata chosen to insure variation by region, urbanization, community income level, total and percentage minority enrollment, type of control, and proximity to institutions of higher learning. The second stage involved a random selection of 18 students per high school.

[2] The percentages in this report are population estimates based on differentially weighting the sample respondents. Adjustments were necessary because the two-stage sampling procedure involved oversampling certain school types to increase the numbers of disadvantaged students in the sample.

[3] Enrollment in 1972 and 1973 was measured by positive answers to two questions in the fall 1973 First Followup Questionnaire: "Were you taking classes or courses at any school during *the first week of October 1973*?" and "Now please think back a year to the **fall** of 1972. Were you taking classes or courses at any school during *the month of October 1972*?" Enrollment in 1974 was measured by a positive answer to these questions in the fall 1974 Second Followup Questionnaire: "*From October 1973 through October 1974* were you enrolled in or did you take classes at any school like a college or university, service academy or school, business school, trade school, technical institute, vocational school, community college, and so forth?" and "Did you attend school in the *first week of October 1974*?"

[4] Plans to reenter college were elicited by this question asked in fall 1974 in the second followup: "Did you withdraw from this school before you completed your studies?" Such plans were indicated by the response, "Yes, but I plan to return before October 1975."

[5] Students who were enrolled in or taking classes at a school were asked to report what kind of school this was, a "vocational, trade, business, or other career training school," a "junior or community college (2-year)," a "4-year college or university," or some "other" type. In this report, those who replied "vocational . . ." or "other" are not counted among those attending college.

[6] Spady (1970) noted that "The Trent and Medsker sample contains a less selective cohort than either the Project Talent [Bayer, 1968] or American Council on Education [Astin and Panos, 1969] sample; therefore, because of their lower qualifications the former are less able to survive 4 years of college" (p. 67). The NLS sample is less selective by ability and socioeconomic background than these studies, so any such bias would tend to increase the NLS attrition rate compared to earlier surveys.

The NLS has high response rates, averaging 86 percent for the 3 waves, and the attrition estimates are weighted to correct for nonresponse. Bias produced by selective returns from those prone to complete college would similarly increase the NLS attrition rate compared to the earlier studies. These biases, if they exist, imply that the true declines in attrition rates are larger than those reported here.

[7] The decline in attrition is consistent with another trend reported in the NCES publication, *The Condition of Education 1976*: the proportion of the young adult population receiving college degrees has increased steadily from 17 percent in 1961 to 26 percent in 1974 (p. 33).

[8] ***Financial Statistics of Institutions of Higher Education: Current Funds Revenues and Expenditures–1972-73***, an NCES publication by P. F. Mertins and N. J. Brandt, reports the following average expenditures per student for the aggregate United States:

Control	Universities	Other 4-year	2-year
Public	$4,327	$2,356	$1,126
Private	6,768	3,525	2,129

Source: Table C

[9] The rest of the tables reported in this Bulletin are taken from a recent Research Triangle Institute report by Samuel Peng, Elizabeth Ashburn, and George Dunteman entitled "Withdrawal From Institutions of Higher Education: An Appraisal With Longitudinal Data Involving Diverse Institutions." This report was prepared for NCES under contract number OEC-0-73-6666. The sources listed under the tables in this report refer to tables from that report.

[10] Adams (1969) reported similar relationships between high school grades and withdrawal from college: among 4-year colleges, those with lower than B high school grade averages withdrew more often than those with A or B averages, but this pattern did not hold among 2-year colleges.

[11] There are seven levels of selectivity in Astin's index (1971) based on average SAT scores of entering students. "Low" is level 1, "medium" is levels 2–4, and "high" is levels 5–7. The categories were combined in this way in order to reduce the complexity of the table and smooth the differences between categories. Schools with "unknown" selectivity scores tend to be like those of low selectivity on other measures.

[12] Those whose college grade average was below C or whose reasons for withdrawing included "courses were too hard" or "failing or not doing as well as I wanted."

[13] The employment of college-aged persons tends to be peripheral (i.e., not full-time and full-year) and very sensitive to the general state of the economy (cf. Morse, 1969). As the economy returns to its full productive capacity, there will be more jobs for these young people; and if there is a direct link between employment and withdrawal from college, an increasing rate of withdrawal would be a likely outcome.

[14] "SES was based upon a composite of father's education, mother's education, parental income, father's occupation, and a household items index. Factor analysis revealed a common factor with approximately equal loadings for each of the five

components. Missing components were imputed as the mean of the subpopulation of which the respondent was a member, defined according to cross-classifications of race, high school program, and aptitude. The available standardized components, both imputed and nonimputed, were averaged to form an SES score when at least two nonimputed components were available. The continuous SES score was then assigned to one of the quartiles on the basis of the weighted frequency distribution of the composite score. The first quartile, the middle two quartiles, and the fourth quartile were respectively denoted as the low, middle, and high SES." Peng, Ashburn, and Dunteman (1976:32).

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